

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. 93-094

WASTE DISCHARGE REQUIREMENTS
FOR
DAVID E. BARBIERI
YUBA SUTTER DISPOSAL AREA
CLASS III LANDFILLS
YUBA COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Board) finds that:

1. David E. Barbieri (hereafter Discharger) submitted a Report of Waste Discharge, on 31 December 1991; a Report of Disposal Site Information, on 30 December 1991; a Solid Waste Assessment Test (SWAT) report, on 30 May 1991; and a Closure and Post-closure Maintenance Plan, on 20 March 1992.
2. The Report of Waste Discharge requests revised waste discharge requirements (WDRs) for construction of one new Class III landfill with two modules and closure of one existing Class III landfill at the disposal facility. The facility is currently regulated by Waste Discharge Requirements Order No. 76-35, which is no longer in conformance with Title 23, California Code of Regulations (CCR), Division 3, Chapter 15 (hereafter Chapter 15). The Discharger's existing monitoring program for ground water, surface water, and the unsaturated zone does not satisfy the requirements outlined in Article 5 of Chapter 15 of Division 3 of Title 23 CCR, as amended July 1, 1991.
3. The 188-acre facility, comprised of Assessor's Parcel Numbers 18-240-030, is owned and operated by David E. Barbieri. Waste disposal activities have occurred within 29.2 acres of the facility. The facility is outside the City of Marysville, one half mile northeast of the intersection of Highway 20 and 22nd Street, in Sections 7, 8, 17, and 18, Township T15N, Range R4E, MDB&M, as shown in Attachment A, which is incorporated herein and made part of this Order.
4. The facility consists of the existing landfill mass (hereafter Landfill Unit 1 or LF-1) which is constructed without a RCRA Subtitle D liner and covers about 19 acres while proposed Landfill Unit 2 (LF-2) will be constructed with a RCRA Subtitle D liner and cover about 10 acres. These landfill units are shown in Attachment B which is incorporated herein and made part of this Order.
5. Waste disposal operations at this site commenced in the early 1960s or possibly before. Landfill operations commenced in 1973. In 1981, the

WASTE DISCHARGE REQUIREMENTS
DAVID E. BARBIERI
YUBA SUTTER DISPOSAL AREA
CLASS III LANDFILL UNITS
YUBA COUNTY

-2-

Discharger purchased the property from the estate of Victor Marogna. Approximately 660,000 cubic yards of wastes were discharged to LF-1 between 1973 and 1992. The Discharger proposes to close LF-1 by 1 January 1995.

WASTES AND THEIR CLASSIFICATION

6. The Discharger proposes to continue to discharge municipal solid waste, private and commercial refuse for disposal in Class III Landfill Unit Nos. 1 and 2, as shown on Attachment B. These wastes are classified as nonhazardous solid waste using the criteria set forth in Chapter 15. The discharge rate is approximately 85 cubic yards per day. The area served by the landfill is Marysville, Yuba City, Wheatland, Olivehurst, and Live Oak.

SITE DESCRIPTION

7. The facility is centrally located along the eastern side of the Sacramento Valley. The landfill units are on a flat terrace above the northwest bank of the Yuba River and are bounded by a containment levee along the south and southeast sides, by the Yuba Sutter Disposal Incorporated (YSDI) Sanitary Landfill on the northeast side, and by the main project levee for the Yuba River on the northwestern side. The YSDI Sanitary Landfill is owned and operated by other parties.
8. The waste management units are underlain by the Victor Formation. Generally, the soils at the site are fine grained alluvium consisting mostly of silts and sands with some small scattered gravels to a depth of approximately 40 feet below the existing ground surface. The upper 10 feet of these materials have a sufficiently high clay content to classify some areas as clayey silts or silts with clays. Below these fine grained soils, an apparent material change to gravel occurs.
9. Land within 1000 feet of the site has agricultural and residential uses. There is another landfill and vehicle maintenance shops northeast and adjacent to the landfill.
10. The first water bearing zone is approximately 10 feet below ground surface. There are currently six ground water monitoring wells at the site; most of which are screened between 10 and 40 feet below ground surface. The ground water flow direction is to the east and toward the Yuba River. Ground water elevations range from 57 feet above mean sea level (MSL) near the northwestern corner of the facility to approximately 26 feet above MSL near

WASTE DISCHARGE REQUIREMENTS
DAVID E. BARBIERI
YUBA SUTTER DISPOSAL AREA
CLASS III LANDFILL UNITS
YUBA COUNTY

-3-

the southeastern end of the site. The maximum recorded ground water elevation is 57.7 feet above MSL.

11. Background water quality data are obtained from monitoring well MW-5. Total dissolved solids (TDS) concentrations in this monitoring well range between 70 and 130 mg/l. Dissolved solids concentrations in the down gradient monitoring wells range between 200 and 470 mg/l. The highest reported TDS concentrations are generally found in samples collected from monitoring well MW-2.
12. Several volatile organic compounds (VOCs) have been detected in the down gradient monitoring wells. VOCs detected in samples collected from monitoring wells MW-3 and MW-3C during monitoring activities associated with the SWAT include vinyl chloride, methylene chloride, 1,1-dichloroethane, chloroform, 1,2-dichloroethane, chlorobenzene, and 1,4-dichlorobenzene. Concentrations of these constituents are typically below 2 ug/l. Lower levels of methylene chloride, toluene, and 1,2-dichloroethene were detected in monitoring wells MW-1, MW-2, and MW-4 during the same monitoring period.
13. There are fourteen private wells within a one-mile radius of the site. The majority of these wells are used for irrigation purposes.
14. The beneficial uses of the ground water are domestic, municipal, agricultural, and industrial supply.
15. The site receives an average of 20.61 inches of precipitation per year as measured at Marysville (Department of Water Resources (DWR) bulletin entitled "Rainfall Depth-Duration-Frequency for California" Revised November 1982, updated August 1986). The mean Class A pan evaporation rate for this facility is 61.01 inches per year, as measured at Yuba City between the years 1960 and 1966. Assuming a pan coefficient of 0.7, the average annual net evaporation at the site is 22.10 inches per year.
16. Surface water drainage from the site flows to the Yuba River.
17. The beneficial uses of the Yuba River are domestic, municipal, industrial and agricultural supply; recreation; aesthetic enjoyment; ground water recharge; hydroelectric power generation; and preservation and enhancement of fish, wildlife, and other aquatic resources.
18. The facility is within the Yuba River 100-year floodplain. However, levees and berms constructed to elevations above the 100-year flood level will

prevent inundation or washout of waste management units due to floods with a 100-year return period.

FACILITIES OPERATION

19. The site currently receives up to 85 cubic yards of municipal refuse per day, seven days per week.
20. The Discharger is in the process of developing a leachate management and disposal plan for Landfill Unit 2. These WDRs contain provisions requiring the Discharger to develop an acceptable plan by 1 September 1993.
21. The Discharger's current plans indicate that existing and proposed Class III landfill units at the facility will reach capacity, at the earliest, by the year 2002.
22. The Discharger's current plans include closure of the existing waste management unit in 1995.
23. The Discharger's current plans include expansion of the facility in 1994. Expansion will be accomplished by the addition of a new Class III landfill unit in the west side of the site, which is hydrogeologically similar to the area of the initial waste management units.

WASTE MANAGEMENT UNIT DESIGN

Landfills

24. Information provided by the Discharger demonstrates that natural geologic materials between the base of the existing landfill mass and ground water have not prevented water quality impacts on ground water. Therefore, Landfill Unit 2 will be lined with a composite liner system consisting of 12 inches of compacted clay overlain by a geomembrane having a minimum thickness of 60 mils, an approved LCRS, and other features as required by Chapter 15.

Impoundment

25. The site currently has no surface impoundments and there are no existing liners or leachate collection systems. The Discharger has not submitted any proposal for the construction of surface impoundments for the future disposal of leachate.

WMU CLOSURE

26. A Preliminary Closure and Postclosure Maintenance Plan, dated 16 March 1992, has been submitted by the Discharger. Final closure of the site is currently scheduled for the year 2002. Closure activities associated with LF-1 are scheduled to commence by 1 January 1995.

CEQA CONSIDERATIONS

27. The action to revise waste discharge requirements for this landfill is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21000, et seq.), in accordance with Title 14, CCR, Section 15301 for existing facilities.

OTHER CONSIDERATIONS

28. This Order implements (1) the Water Quality Control Plan, Second Edition, for the Sacramento River Basin (5A) which was adopted initially on 25 July 1975, and (2) the prescriptive standards and performance goals of Chapter 15, effective 27 November 1984.

PROCEDURAL REQUIREMENTS

29. All local agencies with jurisdiction to regulate land use, solid waste disposal, air pollution, and to protect public health have approved the use of this site for the discharges of waste to land stated herein.
30. The Board has notified the Discharger and interested agencies and persons of its intention to revise the WDRs for this facility.
31. In a public hearing, the Board heard and considered all comments pertaining to this facility and discharge.

IT IS HEREBY ORDERED that Order No. 76-35 is rescinded and, David E. Barbieri and Yuba Sutter Disposal Area, its agents, assignees and successors, in order to meet the provisions of Division 7 of the California Water Code and the regulations adopted thereunder, shall comply with the following:

A. PROHIBITIONS

1. The discharge of 'hazardous waste' and 'designated waste' at this facility is prohibited. For the purposes of this Order, the terms 'hazardous waste' and 'designated waste' are as defined in Chapter 15.

WASTE DISCHARGE REQUIREMENTS
DAVID E. BARBIERI
YUBA SUTTER DISPOSAL AREA
CLASS III LANDFILL UNITS
YUBA COUNTY

-6-

2. The discharge of solid or liquid waste or leachate to surface waters, surface water drainage courses, or ground water is prohibited.
3. The discharge of waste to ponded water from any source is prohibited.
4. The discharge of waste within 100 feet of surface waters is prohibited.
5. The discharge of wastes which have the potential to reduce or impair the integrity of containment structures or which, if commingled with other wastes in the unit, could produce violent reaction, heat or pressure, fire or explosion, toxic by-products, or reaction products which in turn (a) require a higher level of containment than provided by the unit, (b) are 'restricted hazardous wastes', or (c) impair the integrity of containment structures, is prohibited.
6. The discharge of liquid or semi-solid waste (i.e., waste containing less than 50 percent solids) to the landfill units is prohibited.
7. The discharge to the landfill units of solid waste containing free liquid or moisture in excess of the waste's moisture holding capacity is prohibited.
8. The disposal of containerized liquids at this facility is prohibited.
9. The discharge of fuel products or cleaning solvents to the ground or surface waters is prohibited.
10. After 1 January 1995, the discharge of wastes to unlined waste management units, is prohibited.

B. DISCHARGE SPECIFICATIONS

General Specifications

1. Wastes shall only be discharged into, and shall be confined to, the WMUs specifically designed for their containment and treatment, as stated in Finding 4 of this Order, and shown on Attachment B.
2. Wastes shall not be discharged below zero feet, mean sea level (M.S.L.). A minimum separation of 5 feet shall be maintained between wastes or leachates and the highest anticipated elevation of underlying ground water including the capillary fringe.

WASTE DISCHARGE REQUIREMENTS
DAVID E. BARBIERI
YUBA SUTTER DISPOSAL AREA
CLASS III LANDFILL UNITS
YUBA COUNTY

-7-

3. Prior to the discharge of waste to a waste management unit, all wells within 500 feet of the unit shall have sanitary seals which meet the requirements of the Yuba County Environmental Health Department or shall be properly abandoned. A record of the sealing and/or abandonment of such wells shall be sent to the Board and to the State Department of Water Resources.
4. Water used for facility maintenance shall be limited to the minimum amount necessary for dust control.
5. Neither the treatment nor the discharge shall cause a pollution or nuisance as defined by the California Water Code, Section 13050.
6. The discharge shall not cause degradation of any water supply.

C. FACILITY SPECIFICATIONS

General WMU Construction

1. Materials used to construct liners shall have appropriate physical and chemical properties to ensure containment of discharged wastes over the operating life, closure, and post-closure maintenance period of the WMUs.
2. Materials used to construct leachate collection and removal systems shall have appropriate physical and chemical properties to ensure the required transmission of leachate over the life of the WMUs and the post-closure maintenance period.
3. Clay liners and landfill caps shall have a maximum hydraulic conductivity of 1×10^{-6} cm/s and a minimum relative compaction of 90 percent. Hydraulic conductivities of liner materials shall be determined by laboratory tests using solutions with similar properties as the fluids that will be contained. Hydraulic conductivities of cap materials shall be determined by laboratory tests using water. Hydraulic conductivities determined through laboratory methods shall be confirmed by approved field testing of the finished liner. Construction methods and quality assurance procedures shall be sufficient to ensure that all parts of the liner and cap meet the hydraulic conductivity, moisture content, and compaction requirements. Proposed design parameters (e.g., soil type, Atterburg limits, moisture content, relative compaction), construction methods and quality assurance procedures for clay liners shall be used in the construction of a test pad prior to liner construction to ensure adequacy of the design, construction, and testing methods.

WASTE DISCHARGE REQUIREMENTS
DAVID E. BARBIERI
YUBA SUTTER DISPOSAL AREA
CLASS III LANDFILL UNITS
YUBA COUNTY

-8-

4. The first layer of waste and the slope of the liner must be able to provide for sufficient drainage of leachate to the LCRS to prevent the buildup of hydraulic head on the liner.
5. LCRSs shall be designed, constructed, and maintained to collect twice the anticipated daily volume of leachate generated by the WMU and to prevent the buildup of hydraulic head on the underlying liner at any time. The depth of fluid in any LCRS sump shall be kept at or just above the minimum needed to ensure safe pump operation.
6. Any landfill liner or cap constructed after the effective date of this Order shall be designed and constructed in accordance with Chapter 15 and this Order and approved by the Board prior to operation. Prior to construction of any landfill liner or cap a final design report shall be submitted to the Board for review and approval and include, but not be limited to, the engineered design plans for the landfill, the contract specifications, a construction quality assurance (CQA) plan to verify that construction specifications will be met, and a revised water quality monitoring plan. Approval of the final design report shall be obtained from the Board prior to construction of the landfill liner or cap. A final construction report shall be submitted for approval by the Board after each phase of construction and prior to the discharge of waste into the constructed phase. The final construction report shall include, but not be limited to, as-built plans for the landfill liner or cap, a CQA report with a written summary of the CQA program and all test results, analyses, and copies of the inspector's original field notes, and a certification as described in Facility Specification 12.

Landfill Specifications

7. During the rainy season, when precipitation can be expected, a minimum one-foot thickness of low permeability cover shall be maintained over all but the active disposal area of the landfill units. The active disposal area shall be confined to the smallest area practicable based on the anticipated quantity of waste discharge and other disposal site operations.
8. Methane and other landfill gases shall be adequately vented, removed from the landfill units, or otherwise controlled to prevent the danger of explosion, adverse health effects, nuisance conditions, or the impairment of beneficial uses of water due to migration through the vadose (unsaturated) zone.
9. LF-2 shall be equipped with a composite liner system consisting at a minimum, of a synthetic liner of 60 mil (60/1000 inch) minimum thickness underlain by a minimum of 12 inches of compacted clay material having a maximum hydraulic conductivity of 1×10^{-6} cm/s and compacted to at least

WASTE DISCHARGE REQUIREMENTS
DAVID E. BARBIERI
YUBA SUTTER DISPOSAL AREA
CLASS III LANDFILL UNITS
YUBA COUNTY

-9-

90 percent relative compaction. The synthetic liner shall be overlain by a blanket-type LCRS, a non-woven filter fabric, and a one-foot thick operations layer.

10. Leachate generation from any WMU shall not exceed 85% of the LCRS design capacity. If leachate generation exceeds this value and/or if the depth of fluid in an LCRS exceeds the minimum needed for safe pump operation, then the Discharger shall notify the Board in writing within seven days. Notification shall include a time table for corrective action necessary to reduce leachate production.
11. Landfill leachate shall be discharged to a location approved by the Regional Board Executive Officer.

Supervision and Certification of Construction

12. All containment structures shall be designed and constructed under the direct supervision of a California registered civil engineer or a certified engineering geologist and shall be certified by that individual as meeting the prescriptive standards and performance goals of Chapter 15 prior to waste discharge.

Protection from Storm Events

13. Waste management units shall be designed, constructed, and operated to prevent inundation or washout due to floods with a 100-year return period. Landfill related containment structures shall be constructed and maintained to prevent, to the greatest extent possible, ponding, infiltration, inundation, erosion, slope failure, washout, and overtopping under 100-year, 24-hour precipitation conditions.
14. Surface drainage from tributary areas and internal site drainage from surface or subsurface sources shall not contact or percolate through wastes.
15. Annually, prior to the anticipated rainy season but no later than 1 November, any necessary erosion control measures shall be implemented, and any necessary construction, maintenance, or repairs of precipitation and drainage control facilities shall be completed to prevent erosion or flooding of the facility and to prevent surface drainage from contacting or percolating through wastes.

D. RECEIVING WATER LIMITATIONS

Water Quality Protection Standards

The concentrations of Constituents of Concern in waters passing through the Points of Compliance shall not exceed the Concentration Limits established pursuant to Monitoring and Reporting Program No. 93-094, which is attached to and made part of this Order.

E. CLOSURE SPECIFICATIONS

Landfill Closure

1. Landfill closure shall be under the direct supervision of a California registered civil engineer or certified engineering geologist.
2. The closed landfill shall be provided with at least two permanent monuments, installed by a licensed land surveyor, from which the location and elevation of all wastes, containment structures, and monitoring facilities can be determined throughout the post-closure maintenance period.
3. At closure, each landfill unit shall receive a final cover which is designed and constructed to function with minimum maintenance and consists, at a minimum, of a two-foot thick foundation layer which may contain waste materials, overlain by a one-foot thick clay liner, and finally by a one-foot thick vegetative soil layer, or an engineered equivalent final cover approved by the Board pursuant to Subsections 2510(b) and (c) of Chapter 15.
4. Vegetation shall be planted and maintained over each closed landfill unit. Vegetation shall be selected to require a minimum of irrigation and maintenance and shall have a rooting depth not in excess of the vegetative layer thickness.
5. Closed landfill units shall be graded to at least a three-percent (3%) grade and maintained to prevent ponding.
6. Areas with slopes greater than ten percent, surface drainage courses, and areas subject to erosion by wind or water shall be designed and constructed to prevent such erosion.

F. FINANCIAL ASSURANCE

The Discharger shall obtain and maintain assurances of financial responsibility for initiating and completing corrective action for all known and reasonably

WASTE DISCHARGE REQUIREMENTS
DAVID E. BARBIERI
YUBA SUTTER DISPOSAL AREA
CLASS III LANDFILL UNITS
YUBA COUNTY

-11-

foreseeable releases from the waste management units. The Discharger shall also establish and maintain an irrevocable closure fund or other means to ensure closure and post-closure maintenance of each waste management unit. Such assurances or funds for corrective action and closure shall be submitted to the Board no later than **1 September 1993**.

G. PROVISIONS

1. The Discharger shall, in a timely manner, remove and relocate any wastes discharged at this facility in violation of this Order.
2. The Discharger shall maintain a copy of this Order at the facility and make it available at all times to facility operating personnel, who shall be familiar with its contents, and to regulatory agency personnel.
3. The Discharger shall comply with Monitoring and Reporting Program No. 93-094, which is attached to and made part of this Order. A violation of Monitoring and Reporting Program No. 93-094 is a violation of these waste discharge requirements.
4. The Discharger shall maintain legible records of the volume and type of each waste discharged at each landfill and the manner and location of discharge. Such records shall be maintained at the facility until the beginning of the post-closure maintenance period. These records shall be available for review by representatives of the Board and of the State Water Resources Control Board at any time during normal business hours. At the beginning of the post-closure maintenance period, copies of these records shall be sent to the Regional Board.
5. The Discharger shall continue the load-checking program described in the facility's Report of Disposal Site Information, dated 30 December 1991, to ensure that 'hazardous wastes' are not discharged to the Class III landfill unit.
6. The Discharger shall maintain waste containment facilities and precipitation and drainage controls, and shall continue to monitor ground water, leachate from the landfill, the vadose zone, and surface waters per Monitoring and Reporting Program No. 93-094 throughout the post-closure maintenance period.
7. The post-closure maintenance period shall continue until the Board determines that remaining wastes in all WMUs will not threaten water quality.

WASTE DISCHARGE REQUIREMENTS
DAVID E. BARBIERI
YUBA SUTTER DISPOSAL AREA
CLASS III LANDFILL UNITS
YUBA COUNTY

-12-

8. The Discharger shall comply with the Standard Provisions and Reporting Requirements, dated 1 March 1991, which are hereby incorporated into this Order. The Standard Provisions and Reporting Requirements contain important provisions and requirements with which the Discharger must comply. A violation of any of the Standard Provisions and Reporting Requirements is a violation of these waste discharge requirements.
9. The owner of the waste management facility shall have the continuing responsibility to assure protection of usable waters from discharged wastes and from gases and leachate generated by discharged waste during the active life, closure, and post-closure maintenance period of the WMUs and during subsequent use of the property for other purposes.
10. The Discharger shall complete the tasks outlined in these WDRs and the attached Monitoring and Reporting Program No. 93-094 in accordance with the following time schedule:

<u>Task</u>	<u>Compliance Date</u>
a. Landfill Unit 1 Closure	
(1) Submit final design report	3 months prior to start of construction
(2) Submit CQA plan with final design report	3 months prior to start of construction
(3) Submit construction schedule	3 months prior to start of construction
(4) Begin construction on final cover system	1 January 1995
(5) Complete construction	1 April 1995
(6) Submit Final Construction Report	1 September 1995
b. Landfill Unit 2 Construction (phase 1)	
(1) Submit final design report	3 months prior to start of construction
(2) Submit CQA plan with final design report	3 months prior to start of construction

WASTE DISCHARGE REQUIREMENTS
DAVID E. BARBIERI
YUBA SUTTER DISPOSAL AREA
CLASS III LANDFILL UNITS
YUBA COUNTY

-13-

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| (3) Submit construction schedule | 3 months prior to start of construction |
| (4) Begin construction | 1 August 1994 |
| (5) Complete construction | 1 October 1994 |
| (6) Submit Final Construction Report | 1 month prior to discharge of waste |
- c. Landfill Unit 2 Construction (phase 2)
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|--|---|
| (1) Submit final design report | 3 months prior to start of construction |
| (2) Submit CQA plan with final design report | 3 months prior to start of construction |
| (3) Submit construction schedule | 3 months prior to start of construction |
| (4) Begin construction | 1 June 1998 |
| (5) Complete construction | 1 August 1998 |
| (6) Submit Final Construction Report | 1 month prior to discharge of waste |
- d. Submit Leachate Management and Disposal Plan for Landfill Unit 2
- 1 September 1993
- e. Submit financial assurances for Landfill Units 1 and 2
- 1 September 1993
- f. Submit Article 5 Monitoring Program
- 1 September 1993
11. The Discharger shall comply with all applicable provisions of Chapter 15 that are not specifically referred to in this Order.
12. The Board will review this Order periodically and will revise these requirements when necessary.

H. REPORTING REQUIREMENTS

1. The Discharger shall comply with the reporting requirements specified in this Order, in Monitoring and Reporting Program Order No. 93-094, and in the Standard Provisions and Reporting Requirements which are attached hereto and made part of this Order.
2. Within 90 days of establishing an evaluation monitoring program, the Discharger shall submit to the Board an amended Report of Waste Discharge pursuant to Section 2550.9(d) of Chapter 15. The amended Report of Waste Discharge shall address the establishment of a corrective action program pursuant to Section 2550.10 of Chapter 15.
3. The compliance period as defined in Section 2550.6 of Chapter 15 shall begin each time the Discharger initiates an evaluation monitoring program and shall continue until the Discharger can demonstrate either that the WMU has been in continuous compliance with the water quality protection standard for a period of three consecutive years, or that a release did not occur pursuant to Section 2550.9(f).
4. The Discharger shall immediately notify the Board of any flooding, equipment failure, slope failure, or other change in site conditions which could impair the integrity of waste or leachate containment facilities or of precipitation and drainage control structures.
5. Within six months of the adoption of these requirements the Discharger shall submit to the Board, to the Local Enforcement Agency, to the Department of Toxic Substances Control, and to the California Integrated Waste Management Board for approval a report describing the periodic load-checking program implemented by the Discharger to ensure that 'hazardous wastes' and 'designated wastes' are not discharged to the Class III landfill units.
6. The Discharger or persons employed by the Discharger shall comply with all notice and reporting requirements of the State Department of Water Resources with regard to the construction, alteration, destruction, or abandonment of all monitoring wells used for compliance with this Order or with Monitoring and Reporting Program No. 93-094, as required by Section 13750 through 13755 of the California Water Code.
7. The Discharger shall submit to the Board for approval a preliminary closure and post-closure maintenance plan not later than the time of application for each solid waste facilities permit review pursuant to Title 14 of CCR, Chapter 5, Article 3.1, Section 18213(b). The closure and post-closure maintenance

WASTE DISCHARGE REQUIREMENTS
DAVID E. BARBIERI
YUBA SUTTER DISPOSAL AREA
CLASS III LANDFILL UNITS
YUBA COUNTY

-15-

plan shall describe the methods and controls to be used to assure protection of the quality of surface and ground waters of the area during final operations and during any proposed subsequent use of the land.

8. The Discharger shall submit a status report regarding the financial assurances for corrective action and closure every five years after the date of adoption of these requirements that either validates the ongoing viability of the financial instrument or proposes and substantiates any needed changes.
9. The Discharger shall notify the Board in writing of any proposed change in ownership or responsibility for construction or operation of the WMUs. The Discharger shall notify the succeeding owner or operator in writing of the existence of this Order. A copy of that notification shall be sent to the Board.
10. The Discharger shall notify the Board of any material change in the character, location, or volume of the waste discharge and of any proposed expansions or closure plans. This notification shall be given 90 days prior to the effective date of the change and shall be accompanied by an amended Report of Waste Discharge and any technical documents that are needed to demonstrate continued compliance with these WDRs.
11. If leachate generation exceeds the value specified above for the landfills, and/or if the depth of fluid in an LCRS exceeds the minimum needed for safe pump operation, then the Discharger shall immediately cease the discharge to the landfill unit and shall notify the Board in writing within seven days. Notification shall include a time table for corrective action necessary to reduce leachate production.

I, WILLIAM H. CROOKS, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Region Water Quality Control Board, Central Valley Region, on 25 June 1993.


WILLIAM H. CROOKS, Executive Officer

Attachments

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. 93-094

FOR
DAVID E. BARBIERI
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CLASS III LANDFILLS
YUBA COUNTY

Existing monitoring well test data show that the past discharge from the Yuba Sutter Disposal Area facility has degraded ground water quality. This is an Evaluation monitoring program that shall be used to assess the nature and extent of the release from the landfill and to design a corrective action program meeting the requirements of California Code of Regulations, Title 23, Division 3, Chapter 15, Article 5, Section 2550.10.

Compliance with this Monitoring and Reporting Program, and with the companion Standard Provisions and Reporting Requirements, is ordered by Waste Discharge Requirements Order No. 93-094. Failure to comply with this Program, or with the Standard Provisions and Reporting Requirements, constitutes noncompliance with the WDRs and with the Water Code, which can result in the imposition of civil monetary liability.

REPORTING

The Discharger shall report monitoring data and information as required in this Monitoring and Reporting Program and as required in the Standard Provisions and Reporting Requirements.

Reports which do not comply with the required format will be REJECTED and the Discharger shall be deemed to be in noncompliance with the WDRs.

In reporting the monitoring data required by this program, the Discharger shall arrange the data in tabular form so that the date, the constituents, the concentrations, and the units are readily discernible. The data shall be summarized in such a manner so as to illustrate clearly the compliance with waste discharge requirements or the lack thereof. Historical and current monitoring data shall be graphed at least once annually. Graphs for the same constituent shall be plotted at the same scale to facilitate visual comparison of monitoring data. A short discussion of the monitoring results, including notations of any water quality violations shall precede the graphical and tabular summaries.

Quarterly monitoring reports shall be submitted to the Board by the 15th day of the month following the calendar quarter in which the samples were taken.

The results of any monitoring done more frequently than required at the locations specified herein shall be reported to the Board.

An annual report shall be submitted to the Board which contains both tabular and graphical summaries of the monitoring data obtained during the previous year. The report shall include a discussion of the progress toward reestablishment of compliance with waste discharge requirements and water quality protection standard.

WATER QUALITY PROTECTION STANDARD

The Discharger shall submit by 1 September 1993 a Water Quality Protection Standard. The Water Quality Protection Standard, as defined in §2550.2 of Chapter 15, shall consist of constituents of concern, their concentration limits, the point of compliance, and all water quality monitoring points.

Constituents of concern shall include all waste constituents, reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the waste management units (WMUs). Concentration limits in each medium shall consist of background concentrations of each constituent of concern or concentrations greater than background pursuant to Section 2550.4 of Chapter 15. For each monitoring period, the Discharger shall determine whether there is statistically significant evidence of a release from WMUs and whether the WMUs are in compliance with the Water Quality Protection Standard using procedures specified in §2550.7 of Chapter 15.

If the Discharger, through a detection monitoring program, or the Board finds that there is a statistically significant evidence for a release from any WMU for any monitoring parameter or constituent of concern or significant physical evidence of a release from any WMU, the Discharger shall notify the Board or acknowledge the Board's finding in writing within seven days, and shall implement verification procedures within 30 days, pursuant to §2550.7(e)(8)(E) of Chapter 15. Within 90 days, the Discharger shall submit to the Board the results of the resampling and either:

- a. a report that demonstrates pursuant to §2550.8(k)(7) of Chapter 15 that a source other than the WMU caused the evidence of a release, or that the evidence resulted from an error in sampling, analysis, or evaluation, or from natural variation in ground water, surface water, or the unsaturated zone; or
- b. an amended Report of Waste Discharge for the establishment of an evaluation monitoring program, pursuant to §2550.9 of Chapter 15, to assess the nature and extent of the release from WMUs and to design a corrective action program meeting the requirements of §2550.10 of Chapter 15. Within 180 days of determining statistically significant evidence of a release, the Discharger shall submit an engineering feasibility study pursuant to §2550.8(k)(6) for corrective action program necessary to meet the requirements of §2550.10 of Chapter 15.

MONITORING AND REPORTING
DAVID E. BARBIERI
YUBA SUTTER DISPOSAL AREA
CLASS III LANDFILL, YUBA COUNTY

-3-

If subsequent sampling of "background" monitoring wells indicates significant water quality changes due to either seasonal fluctuations or other reasons unrelated to waste management activities at the site, the Discharger may request modification of the water quality protection standard.

SAMPLING AND ANALYSIS PLAN

A sampling and Analysis Plan shall be submitted to Board staff by 1 September 1993 for approval. The sampling and analysis plan shall include specific methods for leachate, surface water, ground water, and vadose zone pore fluid water quality sample collection, handling, chain of custody control, analytical procedures, and field and laboratory quality assurance and quality control.

WASTE MONITORING PROGRAM

NONHAZARDOUS SOLID WASTE MONITORING

The Discharger shall monitor all wastes discharged to the Class III landfill units on a monthly basis and report to the Board as follows:

<u>Parameter</u>	<u>Report in Units of</u>	<u>Reporting Frequency</u>
Quantity discharged	cubic yards	Quarterly
Type of material discharged	—	Quarterly
Source(s) of material discharged	—	Quarterly
Minimum elevation of discharge	feet & tenths MSL	Quarterly
Capacity of unit remaining	percent	Annually

LEACHATE MONITORING

All landfill LCRS sumps shall be inspected monthly for leachate generation. Upon detection of leachate in a previously dry LCRS, the Discharger shall immediately sample the leachate and shall continue to sample and report the leachate at the following frequencies thereafter. Leachate samples shall be analyzed for the following:

<u>Parameter/Constituent</u>	<u>Report in Units of</u>	<u>Sampling & Reporting Frequency</u>
Flow Rate	gallons/day	Monthly
Specific Conductance (field)	µmhos/cm	Monthly
pH (field)	pH units	Monthly
Temperature (field)	°C	Monthly
Total Organic Carbon	mg/l	Quarterly
Suspended Solids	mg/l	Quarterly

MONITORING AND REPORTING
DAVID E. BARBIERI
YUBA SUTTER DISPOSAL AREA
CLASS III LANDFILL, YUBA COUNTY

-4-

<u>Parameter/Constituent</u>	<u>Report in Units of</u>	<u>Sampling & Reporting Frequency</u>
Chemical Oxygen Demand (COD)	mg/l	Quarterly
Total Hardness	mg/l	Quarterly
Total Dissolved Solids	mg/l	Quarterly
Chloride	mg/l	Quarterly
Sulfate	mg/l	Quarterly
Nitrate (as N)	mg/l	Quarterly
Sulfides (including H ₂ S)	presence/absence	Quarterly
Carbonate	mg/l	Quarterly
Bicarbonate	mg/l	Quarterly
Alkalinity	mg/l	Quarterly
Volatile Organics ²	µg/l	Semiannually ³
Aluminum ¹	mg/l	Semiannually
Antimony ¹	mg/l	Semiannually
Arsenic	mg/l	Semiannually
Cadmium ¹	mg/l	Semiannually
Total Chromium (III+VI) ¹	mg/l	Semiannually
Chromium (VI)	mg/l	Semiannually
Copper ¹	mg/l	Semiannually
Lead ¹	mg/l	Semiannually
Manganese ¹	mg/l	Semiannually
Mercury	mg/l	Semiannually
Nickel ¹	mg/l	Semiannually
Selenium	mg/l	Semiannually
Silver ¹	mg/l	Semiannually
Thallium ¹	mg/l	Semiannually
Zinc ¹	mg/l	Semiannually
Dissolved Iron ¹	mg/l	Semiannually

¹ Inductively Coupled Argon Plasma Atomic Emission Spectroscopy (ICAP) may be used for analysis of these constituents only.

² EPA Methods 601 and 602, or EPA Method 624 shall be used. All peaks shall be reported.

³ Semiannually means in February and in August if liquid is present. If liquid is not present in August, then it means at the first detection of liquid thereafter (for Leachate Monitoring only.)

FACILITIES MONITORING PROGRAM

LCRS MONITORING

All LCRSs shall be tested annually to demonstrate operation in conformance with waste discharge requirements. The results of these tests shall be reported to the Board and shall include comparison with earlier tests made under comparable conditions.

SYNTHETIC LINER MONITORING

All visible portions of synthetic liners shall be inspected on a weekly basis and their condition reported quarterly to the Board.

WATER QUALITY MONITORING PROGRAM

PROPOSED GROUND WATER AND VADOSE ZONE PORE FLUID MONITORING PROGRAM

The Discharger shall submit by 1 September 1993, a proposed revised ground water and vadose zone pore fluid monitoring system and program in accordance with Article 5 of Chapter 15. The water quality monitoring system and program shall be sufficient to demonstrate compliance, or lack thereof, with the Water Quality Protection Standard. Existing water quality monitoring stations and data can be proposed for incorporation in the revised monitoring system and program. The proposal shall include:

1. Proposed conceptual design and location of water quality monitoring points including those at the point of compliance (§2550.7);
2. Proposed monitoring parameters, constituents of concern, and their monitoring frequencies (§2550.7 and §2550.8);
3. Proposed concentration limits and/or methods for establishing concentration limits (§2550.4); and,
4. Proposed statistical methods for determining statistically significant evidence for a release from WMUs.

The Discharger shall also propose a monitoring system and program pursuant to §2550.10 of Chapter 15 for determining the effectiveness of any corrective actions.

GROUND WATER MONITORING

The following monitoring program shall be implemented at the facility to determine compliance with the "water quality protection standard" which will be developed later. The monitoring network shall consist of background monitoring well MW-5 and downgradient monitoring wells MW-1, MW-2, MW-3, MW-3C, and MW-4. The locations of these wells are shown on Attachment "B". Samples from all monitoring wells shall be collected at the frequencies indicated and analyzed for:

<u>Parameter/Constituent</u>	<u>Report in Units of</u>	<u>Sampling & Reporting Frequency</u>
Temperature	°C	Quarterly
Turbidity	N.T.U.	Quarterly
Specific Conductance (field)	µmhos/cm	Quarterly
pH (field)	pH units	Quarterly
Total Dissolved Solids	mg/l	Quarterly
Chloride	mg/l	Quarterly
Sulfate	mg/l	Quarterly
Chemical Oxygen Demand (COD)	mg/l	Quarterly
Total Hardness	mg/l	Quarterly
Dissolved Iron	mg/l	Quarterly
TRPH ³	mg/l	Semiannually
TPH as diesel ³	µg/l	Semiannually
Cadmium ¹	mg/l	Annually
Lead ¹	mg/l	Annually
Mercury	mg/l	Annually
Total Chromium (III + VI) ¹	mg/l	Annually
Arsenic	mg/l	Annually
Barium ¹	mg/l	Bi-annually
Beryllium ¹	mg/l	Bi-annually
Boron ¹	mg/l	Bi-annually
Cobalt ¹	mg/l	Bi-annually
Copper ¹	mg/l	Bi-annually
Nickel ¹	mg/l	Bi-annually
Selenium	mg/l	Bi-annually
Tetrachloroethylene	mg/l	Bi-annually
Zinc ¹	mg/l	Bi-annually
Volatile Organics ⁴	µg/l	Annually
Semi-Volatile Organics ⁴	µg/l	Bi-annually

footnotes on next page

MONITORING AND REPORTING
DAVID E. BARBIERI
YUBA SUTTER DISPOSAL AREA
CLASS III LANDFILL, YUBA COUNTY

-7-

- 1 ICAP maybe used for analysis of these constitutes.
- 2 AA shall be used for analysis of these constitutes.
- 3 Total Petroleum Hydrocarbons (TPH) as diesel shall be prepared by EPA Method 3510 and analyzed by GC/FID. Total Recoverable Petroleum Hydrocarbon (TRPH) shall be analyzed by EPA Method 418.1-1R.
- 4 EPA Methods 601 and 602, EPA Method 624, or EPA Method 8240 shall be used for analysis of volatile organics. EPA Method 625 or EPA Method 8270 shall be used for analysis of semi-volatile organics. Method detection limits and practical quantitation limits shall be reported. All peaks shall be reported, including those which cannot be quantified and/or specifically identified.

Field and laboratory tests shall be reported in the quarterly monitoring reports. Electrical Conductivity results shall be submitted on a site contour map. All parameters shall be graphed so as to show historical trends at each well.

The ground water surface elevation (in feet and hundredths, M.S.L.) in all wells shall be measured on a quarterly basis and used to determine the velocity and direction of ground water flow. This information shall be displayed on a water table contour map and/or ground water flow net for the site and submitted with the quarterly monitoring reports.

SURFACE WATER MONITORING

Surface water samples shall be sampled at upstream and downstream stations during the first storm of the rainy season which produces significant flow and quarterly when water is present. Samples shall be analyzed for the following:

<u>Parameter/Constituent</u>	<u>Units</u>
Flow Rate	gpm
Temperature (field)	°C
Specific Conductance (field)	µmhos/cm
pH (field)	pH units
Suspended Solids	mg/l
Chemical Oxygen Demand (COD)	mg/l
Total Dissolved Solids	mg/l
Chloride	mg/l
Dissolved Iron	mg/l
Manganese	mg/l
Total Organic Carbon	mg/l
Hardness (as CaCO ₃)	mg/l
Sulfates	mg/l

MONITORING AND REPORTING
DAVID E. BARBIERI
YUBA SUTTER DISPOSAL AREA
CLASS III LANDFILL, YUBA COUNTY

-8-

<u>Parameter/Constituent</u>	<u>Units</u>
Nitrate (as N)	mg/l
Total Coliform	MPN/100 ml
Fecal Coliform	MPN/100 ml
Fecal Streptococci	MPN/100 ml

Surface water monitoring reports may be submitted with the corresponding quarterly ground water monitoring and shall include evaluation of potential impacts of the facility on surface water quality and compliance with the Water Quality Protection Standard.

Statistical Procedures for Determining Significant Increases

The significance of increases in indicator parameters and waste constituents over water quality protection standards shall be established through the use of the statistical procedures in §2555.7 of Chapter 15.

The Discharger shall implement the above monitoring program on the effective date of this Order.

Ordered by William H. Crooks
WILLIAM H. CROOKS, Executive Officer

25 June 1993
(Date)

MWJ

INFORMATION SHEET

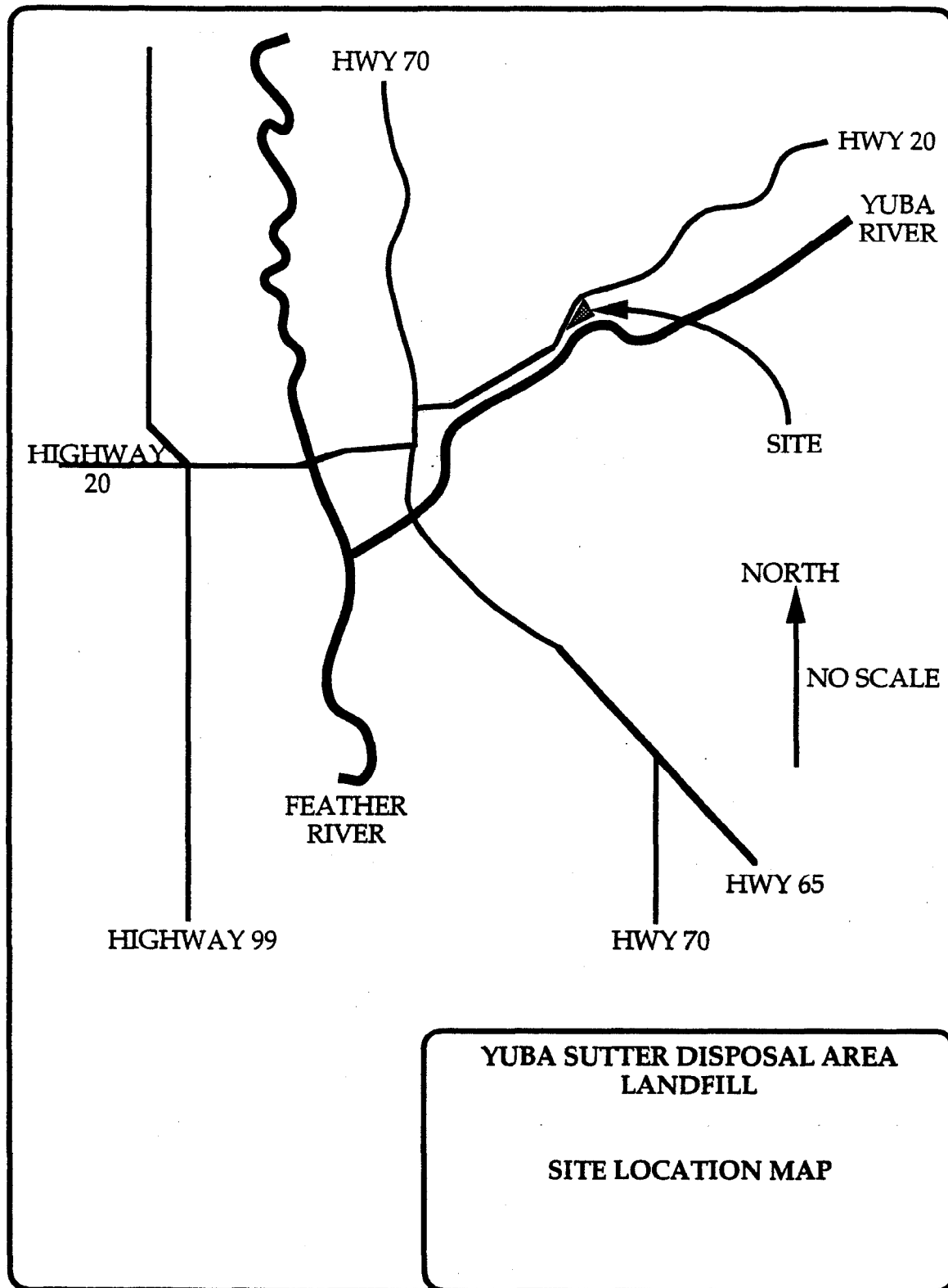
DAVID E. BARBIERI
YUBA SUTTER DISPOSAL AREA
CLASS III LANDFILL
YUBA COUNTY

The Yuba Sutter Disposal Area Landfill has been in operation since the early 1960's starting with waste disposal operations, and in 1973 commencing landfill operations. The area served by this landfill is Marysville, Yuba City, Wheatland, Olivehurst, and Live Oak. Current Operations consist of placing and compacting waste to an existing area at the top of Landfill Unit 1. The waste is compacted to lifts no greater than 24 inches compacted thickness prior to placing a six inch cover.

The facility occupies 188 acres, 19 acres of which are currently active. The Discharger plans to construct a new landfill unit on 10 acres to the southwest of the active site. Construction will consist of two phases. The first phase will consist of constructing one module in the northeast portion of the new landfill area. The second phase will place a second module in the remaining southwest area. David E. Barbieri has not made any specific proposal to comply with RCRA, Subtitle D requirements. As a result, these waste discharge requirements assume that the David E. Barbieri will propose to line any new lateral expansion areas with a composite clay and synthetic liner.

David E. Barbieri, Yuba Sutter Disposal Area, has not submitted the required monitoring reports under Title 23, California Code of Regulations, Division 3, Chapter 15, Article 5. These waste discharge requirements require submittal of an Article 5 monitoring program by 1 June 1993.

ATTACHMENT "A"



ATTACHMENT "B"

